DOCUMENT RESUME

ED 163 313 CG 012 998

AUTHOR Kearney, Deborah; And Others
TITLE Parental Age and the Effectiveness of Modeled Behavior and Modeling Cues.
PUB DATE [76]
NOTE 13p.

EDRS PRICE MF-$0.83 HC-$1.67 Plus Postage.
DESCRIPTORS *Age; Child Psychology; *Children; Cues; *Identification (Psychological); *Modeling (Psychological); Observational Learning; *Parent Child Relationship; *Parents; Research Projects; Role Models; Socialization; Task Performance

ABSTRACT

A two-group independent design was employed to study the relationship between parental age and modeling effectiveness. Subjects were 50 mother-father-child triads. The child's baseline data was recorded on a task that involved constructing a specified geometric shape on a pegboard. Then the child was asked to construct another shape modeling his parents. Evaluators recorded data on task completion, time, number and color of pegs used, sequence of peg placement, and type and number of parental modeling cues. Results showed that parental age is not significantly related to the number of total cues, to specific types of cues, to task improvement following parental modeling as measured by task completion, time, number of pegs used, and sequence of peg placement, or to modeling of peg color choice. Younger children were given significantly more total cues than older children by both mothers and fathers. (Author)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED163313

Parental Age and the Effectiveness of Modeled Behavior and Modeling Cues

Deborah A. Kearney, Hal Tichenor, and Tony Stephenson

The University of Alabama in Huntsville

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

D A Kearney

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC) AND USERS OF THE ERIC SYSTEM."

U S DEPARTMENT OF HEALTH, EDUCATION & WELFARE NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

Running head: Parental Age

CG 012998

CG 012998

Abstract

A two-group independent design was employed in an experiment considering the relationship between parental age and modeling effectiveness. Fifty mother-father-child triads participated. The child's baseline data was recorded on a task that involved constructing a specified geometric shape on a pegboard. Then the child was asked to construct another shape modeling his parents. Two evaluators recorded data on task completion, time, number and color of pegs used, sequence of peg placement, and type and number of parental modeling cues. Results showed that parental age is not significantly related to the number of total cues, to specific types of cues, to task improvement following parental modeling as measured by task completion, time, number of pegs used, and sequence of peg placement, or to modeling of peg color choice. Younger children were given significantly more total cues ($F=24.2$, $p<.001$) than older children by both mothers and fathers.

Parental Age and the Effectiveness of Modeled Behavior and Modeling Cues

In a society in which increasing numbers of parents are waiting to have children until their thirties, the psychological effects of parental age should be a major consideration. Since parents are their children's first teachers and modeling is a decisive influence on children's learning, modeling would seem to be an appropriate test of the influence of parental age.

Albert Bandura (1969) states that modeling, or vicarious learning as it is also known, is just as important in the acquisition of new responses by an organism as is direct reinforcement. He argues that in a natural setting an organism is not allowed numerous errors before a new response is acquired. According to operant conditioning theory an organism engages in a trial-and-error procedure and successively approximates the correct response until it is properly conditioned. In a modeling procedure erroneous responses and the usually concomitant negative reinforcement need not occur.

It has been shown that children actually learn to imitate. Miller and Dollard (1941) chose two first graders as leaders, 20 for an imitation group, and 20 for a non-imitation group. They found that subjects in the imitation and non-imitation groups reached criterion of a correct response on two successive trials in an average of 3.1 trials and 1.7 errors and of 2.4 trials and 0.4 errors, respectively. Modeling techniques have been used by others (Bandura, Grusec, & Menlove, 1967; Lovaas, 1966, 1967) in therapy with schizophrenic and autistic children, especially in improving their poor or non-existant speech behavior, and in therapy

designed to allow young children to overcome their fear of dogs.

Numerous studies have been done to test the effectiveness of different types of models: purported experts, old vs. young celebrities, and models demonstrating high competence (Bandura, 1969). Studies have also been done on observational learning of a task by children (Rosenblith, 1959; Vasta, 1976). It has been found that younger parents are perceived by their children as being more accepting of children's behavior (Field, 1972).

Children learn a large amount of their behavior through the behavioral modeling cues presented by their parents who often serve as prestigious models. Miller and Dollard (1941) describe the discriminative function of social cues in facilitating imitative responses. Cues such as the stimulus object manipulated (Crawford & Spence, 1939; Bandura, 1962) may be modeled by children. The difficulty of measuring modeling cues is illustrated by the diversity of systems such as Hutt and Hutt's (1970) reference to the Glossary of Motor Patterns of four-year-old Nursery School Children in which McGrew codifies and defines 111 behaviors and records their frequency or Jones, Reid, and Patterson's (1975) development of the Behavioral Coding System (BCS) defining six classes of 28 behavior categories. These systems describe too many different behaviors that would not occur in the present experimental situation in this study and therefore, a simpler system was developed.

The following hypotheses were tested: 1) There is no difference in the effectiveness of modeled behavior regardless of parental age as measured by task improvement from baseline to modeling on time and accuracy, by color peg chosen, and by sequence of peg placement. 2) There is no difference in the effectiveness or number of modeling cues given

regardless of parental age as measured by number of head, body, semantic, and paralinguistic cues.

The expected results are failure to reject the null hypotheses. The age of the parent is not expected to have more influence on the model prestige than just the fact of parenthood. Children are expected to show no difference in preference for younger or older parents.

Method

Subjects

Fifty family triads composed of mother-father-child, selected from a small Southern college and the surrounding community, participated. Older parents were defined as those in which both the mother and father were 27 years and up at the birth of their first child and younger parents were defined as those in which both the mother and father were 18-26 years at the birth of their first child. The classification of parents in which one parent was 27 years or older and the other was 26 years or younger was determined by the mean age of the parents.

There were 27 younger parents and 23 older parents. Most families classified themselves in the middle class income bracket, $10,000 to $40,000 annually. Median educational level was college graduation. Children's ages ranged from 3-10 years and all children were first-born. Each participant family received a door prize donated by merchants in the community.

Apparatus and Facilities

Two .3m. X .3m. pegboards with 16 equally sized and spaced holes were used with 24 red, 24 white, 24 blue, and 24 orange golf tees serving as pegs. Evaluation sheets and stopwatches were used by the experimental evaluators.

The experiment was executed in a small room in the psychology department in which two desks were located. In one wall of the room was a two-way mirror behind which the evaluators observed and recorded data. Demographic questionnaires and questionnaires related to topics being studied by experimental collaborators such as recreational activities of parents and children, child-rearing practices, and dependency of children on parents, were utilized.

Procedure

The experiment followed a two-group independent design. The experimental session was divided into four phases. In the first and third phases the child performed the task alone to establish a baseline. The task involved forming a geometric shape specified visually on paper by the experimenter using a specified number of pegs on the pegboard. Children ages 3-6 were asked to complete an X-shape requiring 8 pegs on the pegboard in the first phase and in the second phase with parental modeling they were asked to complete a square requiring 12 pegs. In the third phase they were asked to complete a triangle, 9 pegs, and in the fourth phase with parental modeling, a circle, 8 pegs. Children ages 7-10 began with the triangle and circle and in the third and fourth phases were asked to complete a rectangle, 8 pegs, and a tic-tac-toe design, 12 pegs.

The child was told that he could choose whichever of the four colors of pegs he desired (red, blue, orange, or white), but that once chosen, he must complete the task using that particular color. The task was timed, task completion recorded, and a ratio of pegs used to pegs possible was calculated. Time was converted to a ratio of seconds per peg, i.e. total time over pegs used. These measurements were

compared to the same measurements recorded again in phases two and four and measured task improvement from the situation with no parental modeling to the situation with parental modeling.

In Phase two, the mother on even trials and the father on odd trials entered the room. This counterbalance technique allowed for sex differences. The parent was asked to perform the same task the child has just completed mapping out a different geometric design and was given the same instructions regarding color of pegs as the child. The child sat in a desk next to the parent and observed the parent who was informed that interaction with the child was acceptable as the parent was constructing the shape. The color pegs chosen and the sequence of coordinates in which pegs were placed in the board was recorded.

After parental task completion, the parent was instructed not to interact with the child while the child was asked to repeat the same task the parent had just completed. The same measurements of time, task completion, and accuracy were recorded as in Phase one as was color pegs chosen and the coordinate sequence in the placement of pegs. Phase four was exactly the same as Phase two using a different geometric design and the other parent.

During Phases two and four when parents were performing the task, two evaluators, observing through the two-way mirror, recorded parental modeling cues according to the following system: Motor cues were divided into head and body movements and verbal cues were divided into paralinguistic sound and semantic utterance. Modeling effectiveness was measured by improvement of task on time and accuracy from Phase one to Phase two and from Phase three to Phase four. Color of pegs chosen were compared to the color chosen by parents, an idea modified from

Rosenblith (1961). Sequence of peg placement was assigned one point for each peg placed in the same ordinal position as the parents' and one point for two pegs placed in the same order no matter what ordinal position. A percentage was obtained by placing the number of points obtained over the total possible which was always one less than twice the number of pegs to be used.

Demographic information was obtained for analysis.

Results

Results showed that parental age is not significantly related to the number of total cues, to specific types of cues (head, body, semantic, or paralinguistic), to task improvement following parental modeling as measured by task completion, time, number of pegs used, and sequence of peg placement, or to modeling of peg color choice. Younger children ages 3-6, were given significantly more total cues ($F=24.2$, $p<.001$) than older children, ages 7-10, by both mothers and fathers. Mothers gave significantly more head cues ($F=6.3$, $p<.015$), body cues ($F=5.1$, $p<.027$), and semantic cues ($F=13.9$, $p<.001$), while fathers gave significantly more body cues ($F=5.9$, $p<.018$) and semantic cues ($F=8.0$, $p<.007$).

Income level was significantly related to total cues ($F=4.2$, $p<.01$), mother's body cues ($F=3.8$, $p<.02$), and mother's total cues ($F=3.1$, $p<.034$). The relation between father's total cues and income level showed a trend ($F=2.5$, $p<.067$). Income level was also significantly related to child's modeling of the father's sequence of peg placement ($F=4.3$, $p\leq.009$). The number of cues given by the parents is not related to the child's task improvement.

Comparison of the evaluators' measurements revealed no discrepancies.

Statistical analysis showed that the task was not sex biased and that the level of difficulty was close to the age level although the older children performed the task slightly better than the younger children.

Discussion

According to the results, children model their parents' behavior regardless of the parents' age. Knowing that parental age is not related to the effectiveness of modeling or modeling cues assures parents and family planning counselors that children can take advantage of modeling as an effective way of learning regardless of the parental age factor. Parents are free to decide when to have children based on factors important to them in child-rearing. The need to "hurry up and have children while you're young" is not present. If parents wish to have a family young, they can be assured that their children can learn as effectively from modeling as parents wishing to have a family after several years of marriage. Some parents may wish to wait to have children until they are financially secure.

Financial security itself may be an interesting factor since income level was related to certain cues presented by parents. Interpretation of this data is made difficult since it cannot be related to educational level which did not have a significant influence on modeling cues given. It would be expected that income level and education would be related. According to the results, mother's total cues, and specifically body cues, were related to income level. Perhaps the amount of money earned in the family is a factor in the way mothers teach their children because the income level effects the mother's self-image. Further research concerning the relationship between income level and total number of cues given is suggested.

Parental tendencies to provide more cues to younger children may illustrate parents' promotion of independence in older children. Parents seem to expect younger children to be more dependent on them. Since the total number of cues given was not significantly related to the child's task improvement, perhaps parents need not emphasize cues for younger children either.

A major procedural improvement would be to develop a succession of geometric designs for the pegboard task more closely matched with the ability of children of each age level. Some of the younger children experienced difficulty in following directions, and some of the older children were bored.

The evaluation system for recording modeling cues was effective for the purposes of this study. It successfully focused on gross differences in type of cue and proved to be simple to use in the short trials of the present experiment. The logical improvement of the system would be the addition of more specific, well-defined categories. The "head motor" category could include the turning of the head, facial expression, and eye contact. Of course the difficulty in this revision would be the need for extension of trial time or more evaluators. Whatever the difficulty, the further division of the present categories would improve the system.

The finding that parental age is not related to modeling effectiveness is significant. Further research to investigate other relationships, if they exist, between parental age and factors concerning children will be of considerable importance. Systematic inquiry into these relationships can eliminate probable myths about the effects of parental age on children.

References

Bandura, A. Social learning through imitation. In M. R. Jones (Ed.), Nebraska symposium on motivation: 1962, Lincoln: University of Nebraska Press, 1962. Pp. 211-269

Bandura, A. Principles of behavior modification. New York: Holt, Rinehart, and Winston, Inc., 1969.

Bandura, A., Grusec, J. E., & Menlove, F. L. Vicarious extinction of avoidance behavior. Journal of Personality and Social Psychology, 1967, 5, 16-23.

Crawford, M. P., & Spence, K. W. Observational learning of discrimination problems by chimpanzees. Journal of Comparative Psychology, 1939, 27, 133-147.

Field, J. V. Effects of parent's and child's age and sex upon children's perceptions of parental behavior (Doctoral Dissertation, West Virginia University, 1972). Dissertation Abstracts International, 1973, 33, 4486B. (University Microfilms No. 73-834, 92).

Hutt, H. & Hutt, C. Direct observation and measurement of behavior. Springfield, Ill.: Charles C. Thomas, Pub., 1970.

Jones, R. R., Reid, J. B., & Patterson, G. R. Naturalistic observation in clinical assessment. In McReynolds (Ed.), Advances in Psychological Assessment Vol. 3. San Francisco: Jossey Bass, Pub., 1975.

Lovaas, O. I. A program for the establishment of speech in psychotic children. In J. K. Wing (Ed.), Early childhood autism. Oxford: Perfamon, 1966. Pp. 115-144.

Lovaas, O. I. A behavior therapy approach to the treatment of childhood schizophrenia. In J. P. Hill (Ed.), Minnesota symposia on child

psychology, Vol. 1. Minneapolis: University of Minnesota Press, 1967. Pp. 108-159.

Miller, N. E. & Dollard, J. Social learning and imitation. New Haven: Yale University Press, 1941.

Rosenblith, J. F. Learning by imitation in kindergarden children. Child Development, 1959, 30, 69-70.

Rosenblith, J. F. Imitative color changes in kindergarden children. Child Development, 1961, 32, 211-223.

Vasta, R. Feedback and fidelity: Effects of contingent consequences on accuracy of imitation. Journal of Experimental Child Psychology, 1976, 21, 98-108.